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Changes for the Better

MITSUBISHI ELECTRIC

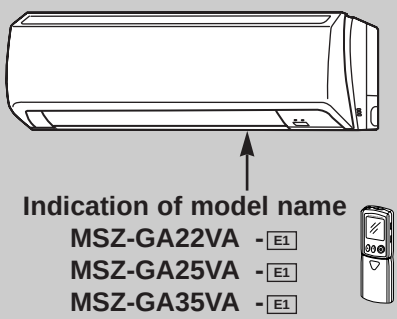
SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

No. OB378

SERVICE MANUAL

Wireless type
Models

MSZ-GA22VA - E1 (WH)
MSZ-GA25VA - E1 (WH)
MSZ-GA35VA - E1 (WH)



Indication of model name
MSZ-GA22VA - E1
MSZ-GA25VA - E1
MSZ-GA35VA - E1

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NOTE:
This service manual describes technical data of the indoor units.
- As for outdoor units MUZ-GA25VA-E1, MUZ-GA35VA-E1, MUZ-GA25VAH-E1 and MUZ-GA35VAH-E1, refer to service manual OB379.
- As for outdoor units MXZ-3A54VA-E1, MXZ-4A71VA-E1 and MXZ-4A80VA-E1, refer to service manual OB377.

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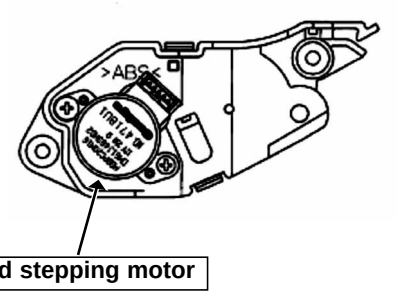
1 TECHNICAL CHANGES

MSZ-A09YV -E1 → MSZ-GA22VA -E1
MSZ-A09YV -E1 → MSZ-GA25VA -E1
MSZ-A12YV -E1 → MSZ-GA35VA -E1

1. Indication of capacity has been changed.(BTU base →kW base)
2. Control method between indoor and outdoor has been changed.
3. Power supply method has been changed (change to supply from outdoor unit).
4. Power supply cord has been removed.
5. Indoor electronic control P.C. board has been changed.
6. Position of terminal block has been changed.
7. Indoor fan motor has been changed. (AC → DC)
8. Indoor heat exchanger has been changed.
9. The horizontal vane motor unit has been changed.
   An external gear is added to the generalized stepping motor.
   The unit is structured so that the driving torque and stopping torque would increase.



Generalized stepping motor

NOTE: Do not remove the vane motor from the motor unit.
Do not disassemble the horizontal vane motor unit.

10. Air cleaning filer has been removed (available as an optional part).
11. Signal of remote controller has been changed. (It is not available for the conventional models.)
12. Symbol on terminal block has been changed (to S1/S2/S3).

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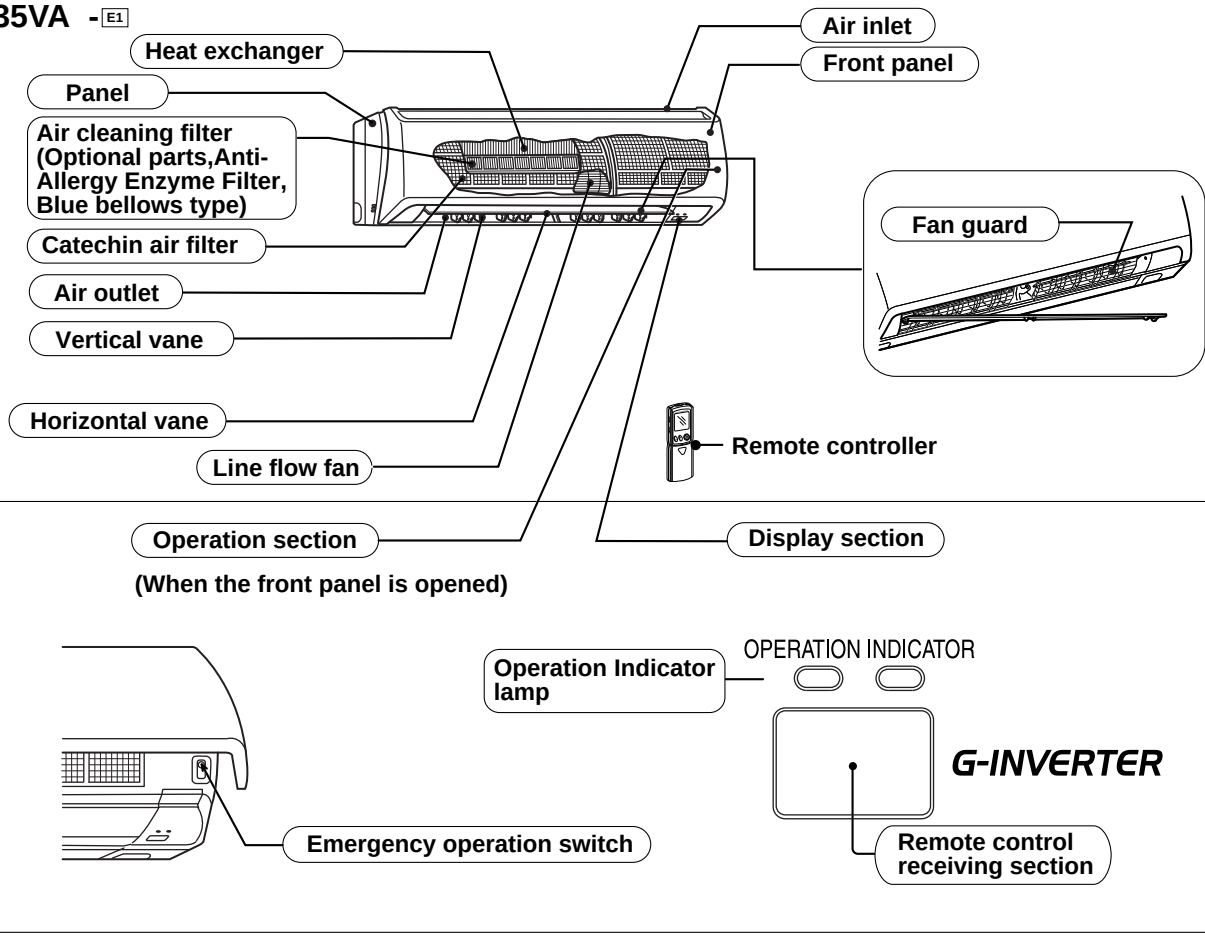
2 PART NAMES AND FUNCTIONS

INDOOR UNIT

MSZ-GA22VA - E1
MSZ-GA25VA - E1
MSZ-GA35VA - E1



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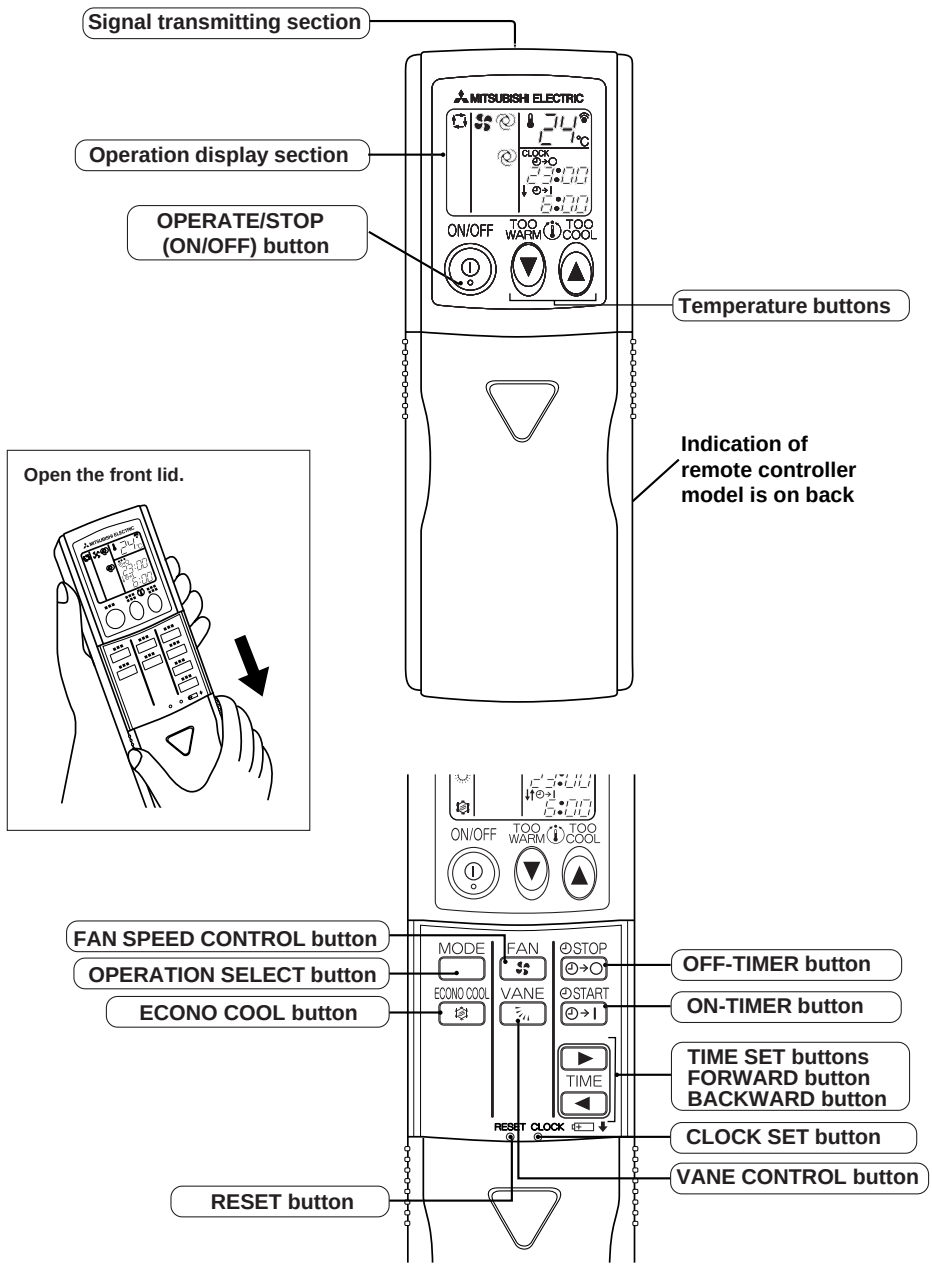
ACCESSORIES

INDOOR UNIT

		MSZ-GA22VA - E1 MSZ-GA25VA - E1 MSZ-GA35VA - E1
①	Installation plate	1
②	Installation plate fixing screw 4 × 25 mm	5
③	Remote controller holder	1
④	Fixing screw for ③ 3.5 × 1.6 mm (Black)	2
⑤	Battery (AAA) for remote controller	2
⑥	Wireless remote controller	1
⑦	Felt tape (Used for left or left-rear piping)	1

MSZ-GA22VA -E1
MSZ-GA25VA -E1
MSZ-GA35VA -E1



3 SPECIFICATION

Indoor model			MSZ-GA22VA - E1		MSZ-GA25VA - E1		MSZ-GA35VA - E1	
Function			Cooling	Heating	Cooling	Heating	Cooling	Heating
Power supply			Single phase 230V,50Hz		Single phase 230V,50Hz		Single phase 230V,50Hz	
Capacity	Air flow(Super High)	m³ /h	600	630	600	630	600	630
	Air flow(High※/Med.※/Low※)	m³ /h	480※/366※/234※	504※/384※/258※	480※/366※/234※	504※/384※/258※	480※/366※/246※	504※/384※/270※
Electrical data	Power outlet	A	10		10		10	
	Running current ✻1	A	0.25		0.25		0.25	
	Power input ✻1	W	33		33		33	
	Auxiliary heater	A(kW)	—		—		—	
	Power factor ✻1	%	57		57		57	
	Fan motor current ✻1	A	0.25		0.25		0.25	
Fan motor	Model		RC0J30-CC		RC0J30-CC		RC0J30-CC	
	Dimensions W×H×D	mm	780×298×210		780×298×210		780×298×210	
	Weight	kg	9		9		9	
Special remarks	Air direction		4		4		4	
	Sound level(Super High)	dB(A)	43		43		43	
	Sound level(High※/Med.※/Low※)	dB(A)	36※/29※/21※		36※/29※/21※		36※/29※/22※	
	Fan speed(Super High)	rpm	1,200	1,250	1,200	1,250	1,200	1,250
	Fan speed(High※/Med.※/Low※)	rpm	1,000※/800※/580※	1,040※/830※/620※	1,000※/800※/580※	1,040※/830※/620※	1,000※/800※/600※	1,040※/830※/640※
	Fan speed regulator		4		4		4	
	Thermistor RT11(at25℃)	kΩ	10		10		10	
	Thermistor RT12(at25℃)	kΩ	10		10		10	
	Thermistor RT13(at25℃)	kΩ	10		10		10	
	Remote controller model		KM05B		KM05B		KM05B	

When outdoor unit is MXZ type.

Indoor model			MSZ-GA22VA - E1		MSZ-GA25VA - E1		MSZ-GA35VA - E1	
Function			Cooling	Heating	Cooling	Heating	Cooling	Heating
Capacity	Air flow(Super High)	m³ /h	540		540		600	618
	Air flow(High※/Med.※/Low※)	m³ /h	438※/342※/240※	420※/366※/258※	438※/342※/240※	420※/366※/258※	480※/366※/246※	504※/390※/270※
Special remarks	Sound level(Super High)	dB(A)	43		43		43	
	Sound level(High※/Med.※/Low※)	dB(A)	36※/29※/21※		36※/29※/21※		36※/29※/22※	
	Fan speed(Super High)	rpm	1,100		1,100		1,200	1,230
	Fan speed(High※/Med.※/Low※)	rpm	930※/760※/580※	900※/800※/620※	930※/760※/580※	900※/800※/620※	1,000※/800※/600※	1,040※/850※/640※

NOTE : Test conditions are based on ISO 5151
Cooling : Indoor Dry-bulb temperature 27℃ Wet-bulb temperature 19℃
Outdoor Dry-bulb temperature 35℃ Wet-bulb temperature 24℃
Heating : Indoor Dry-bulb temperature 20℃ Wet-bulb temperature 15℃
Outdoor Dry-bulb temperature 7℃ Wet-bulb temperature 6℃
Refrigerant piping length (one way): 5m
※ Reference value
✻1 Measured under rated operating frequency.

Specifications and rating conditions of main electric parts

INDOOR UNIT

Item \ Model	MSZ-GA22VA - E1 MSZ-GA25VA - E1 MSZ-GA35VA - E1
Fuse (F11)	T3.15AL 250V
Horizontal vane motor (MV)	MSBPC20M16 12V DC 250Ω (at 25˚C)
Varistor (NR11)	ERZV14D471
Terminal block (TB)	3P

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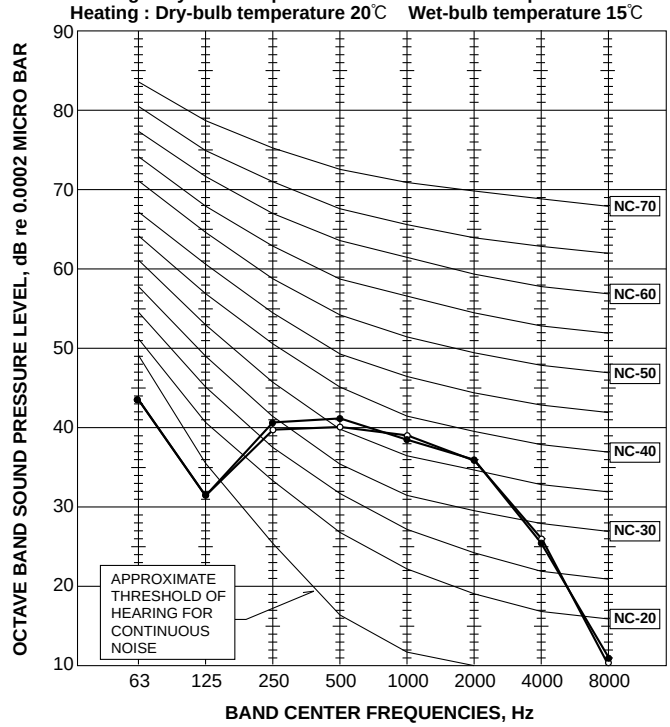
4 NOISE CRITERIA CURVES

MSZ-GA22VA -E1
MSZ-GA25VA -E1

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
Super High	COOLING	43	●—●
	HEATING	43	○—○

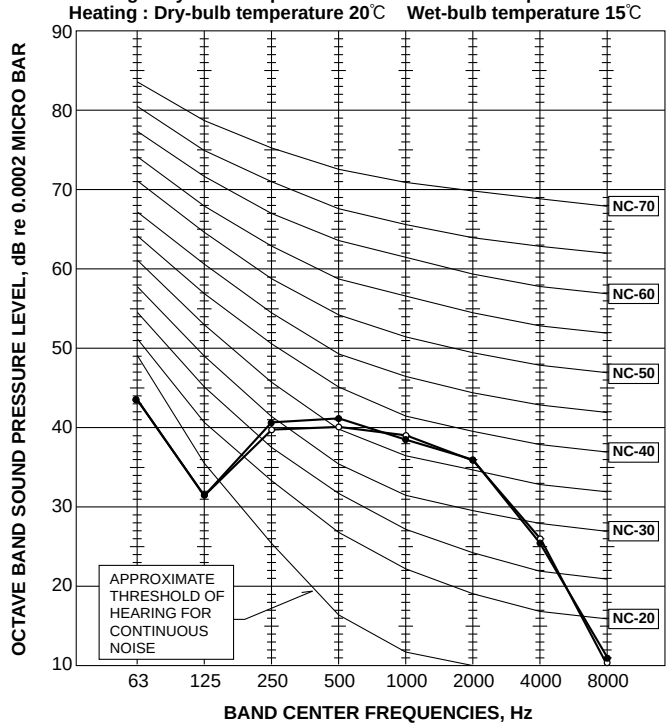
Test conditions,
Cooling : Dry-bulb temperature 27℃ Wet-bulb temperature 19℃
Heating : Dry-bulb temperature 20℃ Wet-bulb temperature 15℃

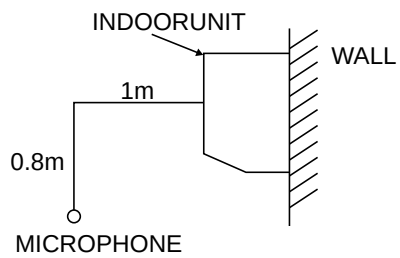


MSZ-GA35VA -E1

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
Super High	COOLING	43	●—●
	HEATING	43	○—○

Test conditions,
Cooling : Dry-bulb temperature 27℃ Wet-bulb temperature 19℃
Heating : Dry-bulb temperature 20℃ Wet-bulb temperature 15℃



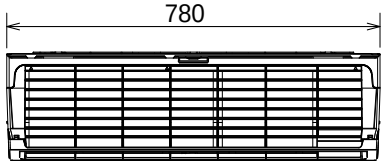


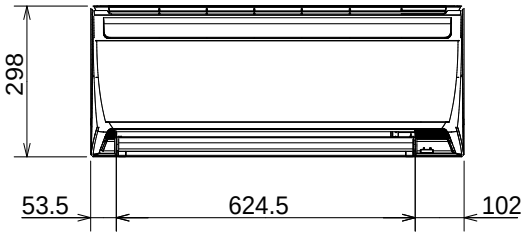
5 OUTLINES AND DIMENSIONS

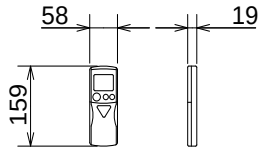
MSZ-GA22VA -E1
MSZ-GA25VA -E1
MSZ-GA35VA -E1

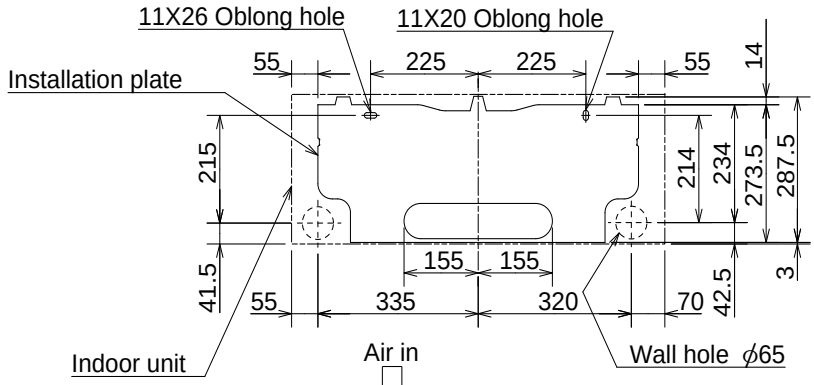
Unit : mm

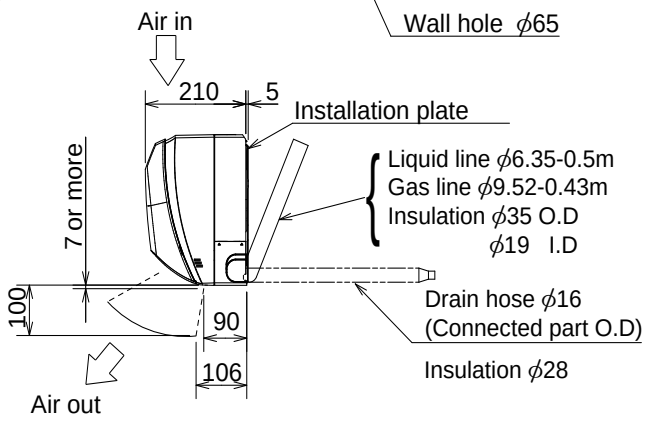
INDOOR UNIT



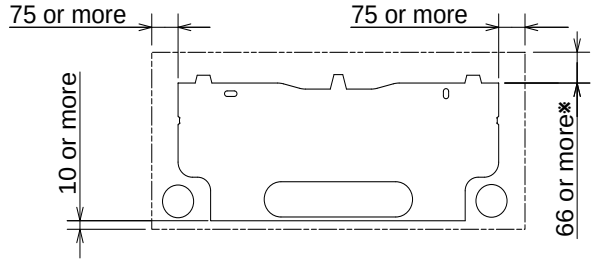








Required space (Indoor unit)

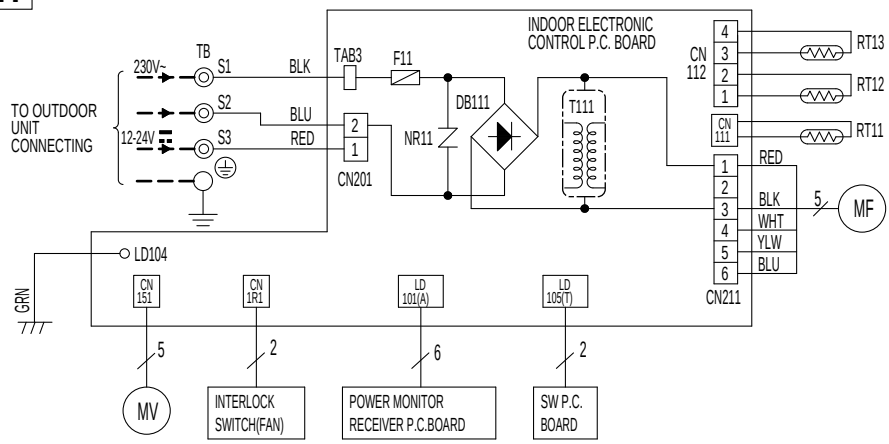


6 WIRING DIAGRAM

MSZ-GA22VA -E1
MSZ-GA25VA -E1
MSZ-GA35VA -E1

MODELS WIRING DIAGRAM

INDOOR UNIT



SYMBOL	NAME	SYMBOL	NAME
DB111	DIODE STACK	RT11	ROOM TEMPERATURE THERMISTOR
F11	FUSE (T3.15AL250V)	RT12	INDOOR COIL THERMISTOR (MAIN)
MF	INDOOR FAN MOTOR	RT13	INDOOR COIL THERMISTOR (SUB)
MV	VANE MOTOR (HORIZONTAL)	T111	TRANSFORMER
NR11	VARISTOR	TB	TERMINAL BLOCK

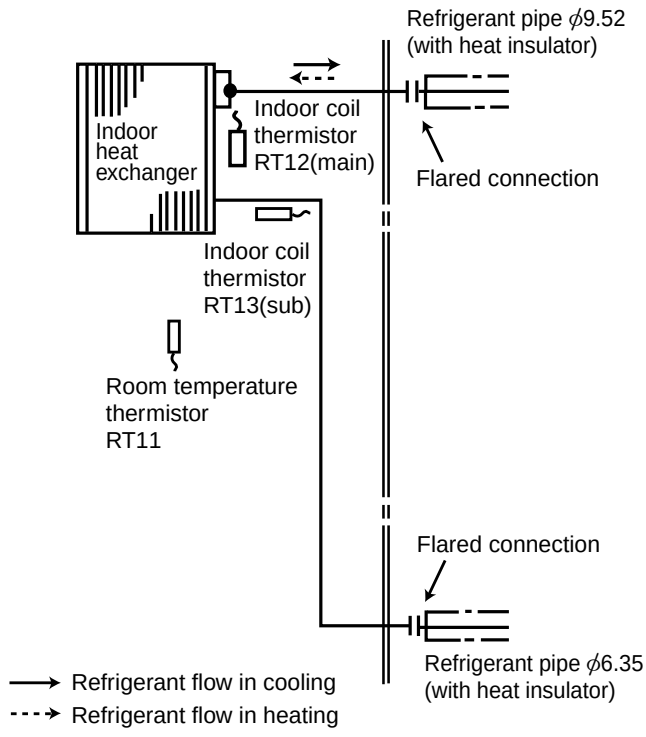
NOTE:1. About the outdoor side electric wiring refer to the outdoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□□: Connector

7 REFRIGERANT SYSTEM DIAGRAM

MSZ-GA22VA -E1
MSZ-GA25VA -E1
MSZ-GA35VA -E1

Unit : mm

INDOOR UNIT



8 SERVICE FUNCTIONS

MSZ-GA22VA -E1
MSZ-GA25VA -E1
MSZ-GA35VA -E1

8-1. TIMER SHORT MODE

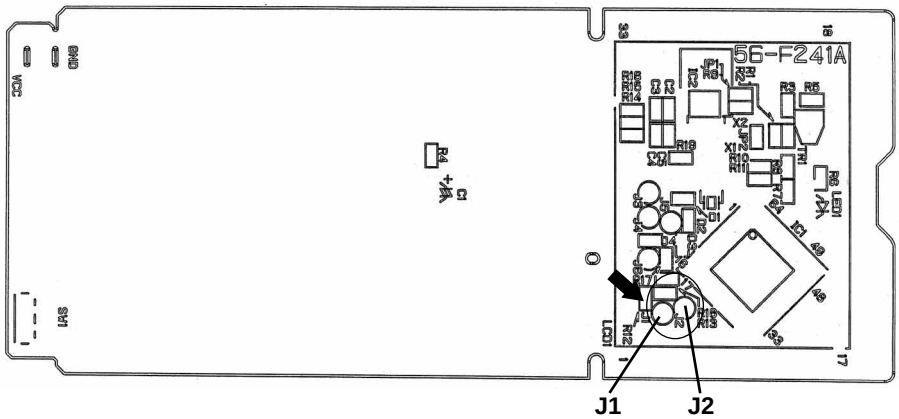
For service, set time can be shortened by short circuit of JPG and JPS the electronic control P.C. board.
The time will be shortened as follows. (Refer to 9-7.)
Set time : 1-minute ➔ 1-second
Set time : 3-minute ➔ 3-second (It takes 3 minutes for the compressor to start operation. However, the starting time is shortened by short circuit of JPG and JPS.)

8-2. P.C. BOARD MODIFICATION FOR INDIVIDUAL OPERATION

A maximum of 4 indoor units with wireless remote controllers can be used in a room.
In this case, to operate each indoor unit individually by each remote controller, P.C. boards of remote controller must be modified according to the number of the indoor unit.

How to modify the remote controller P.C. board
Remove batteries before modification.
The board has a print as shown below :

Remote controller model : KM05B



NOTE : For remodelling, take out the batteries and press the OPERATE/STOP(ON/OFF) button twice or 3 times at first.
After finish remodelling, put back the batteries then press the RESET button.

The P.C. board has the print “J1” and “J2”. Solder “J1” and “J2” according to the number of indoor unit as shown in Table 1.
After modification, press the RESET button.

Table 1

	1 unit operation	2 units operation	3 units operation	4 units operation
No. 1 unit	No modification	Same as at left	Same as at left	Same as at left
No. 2 unit	–	Solder J1	Same as at left	Same as at left
No. 3 unit	–	–	Solder J2	Same as at left
No. 4 unit	–	–	–	Solder both J1 and J2

How to set the remote controller exclusively for particular indoor unit.
After you turn the breaker ON, the first remote controller that sends the signal to the indoor unit will be regarded as the remote controller for the indoor unit.
The indoor unit will only accept the signal from the remote controller that has been assigned to the indoor unit once they are set.
The setting will be cancelled if the breaker has turned off, or the power supply has shut down.
Please conduct the above setting once again after the power has restored.

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8-3. AUTO RESTART FUNCTION

When the indoor unit is controlled with the remote controller, the operation mode, the set temperature, and the fan speed are memorized by the indoor electronic control P.C. board. The “AUTO RESTART FUNCTION” sets to work the moment power has restored after power failure. Then, the unit will restart automatically.

Operation

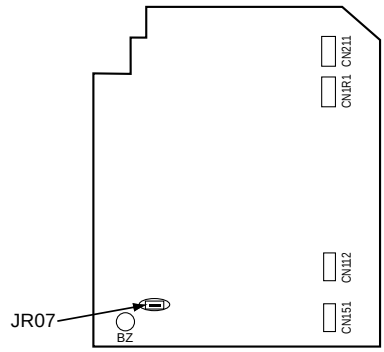
① If the main power has been cut, the operation settings remain.

② After the power is restored, the unit restarts automatically according to the memory.
(However, it takes at least 3 minutes for the compressor to start running.)

How to release “AUTO RESTART FUNCTION”

①Turn off the main power for the unit.

②Solder the Jumper wire to JR07 on the indoor electronic control P.C. board. (Refer to 9-7.)



NOTE:

- The operation settings are memorized when 10 seconds have passed after the indoor unit was operated with the remote controller.
- If main power is turned OFF or a power failure occurs while AUTO START/STOP timer is active, the timer setting is cancelled.
- If the unit has been off with the remote controller before power failure, the auto restart function does not work as the power button of the remote controller is off.
- To prevent breaker off due to the rush of starting current, systematize other home appliance not to turn on at the same time.
- When some air conditioners are connected to the same supply system, if they are operated before power failure, the starting current of all the compressors may flow simultaneously at restart.
  Therefore, the special counter-measures are required to prevent the main voltage-drop or the rush of the starting current by adding to the system that allows the units to start one by one.

9 TROUBLESHOOTING

MSZ-GA22VA -E1 MSZ-GA25VA -E1 MSZ-GA35VA -E1

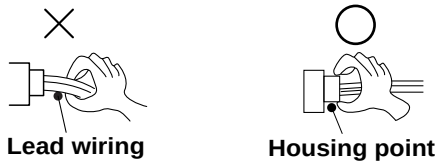
9-1. Cautions on troubleshooting

1. Before troubleshooting, check the following:

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for mis-wiring.

2. Take care the following during servicing.

1) Before servicing the air conditioner, be sure to turn off the unit first with the remote controller, and then after confirming the horizontal vane is closed, turn off the breaker and / or disconnect the power plug.
2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
3) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
4) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.



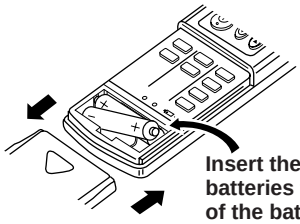
3. Troubleshooting procedure

1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
2) Before servicing check that the connector and terminal are connected properly.
3) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
4) When troubleshooting, refer to 9-2., 9-3. and 9-4.

4. How to replace batteries

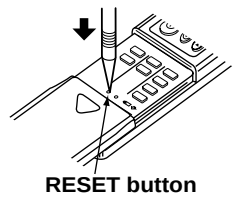
Weak batteries may cause the remote controller malfunction.
In this case, replace the batteries to operate the remote controller normally.

① Remove the front lid and insert batteries. Then reattach the front lid.



Insert the negative pole of the batteries first. Check if the polarity of the batteries are correct.

② Press RESET button with tip end of ball point pen or the like, and then use the remote controller.



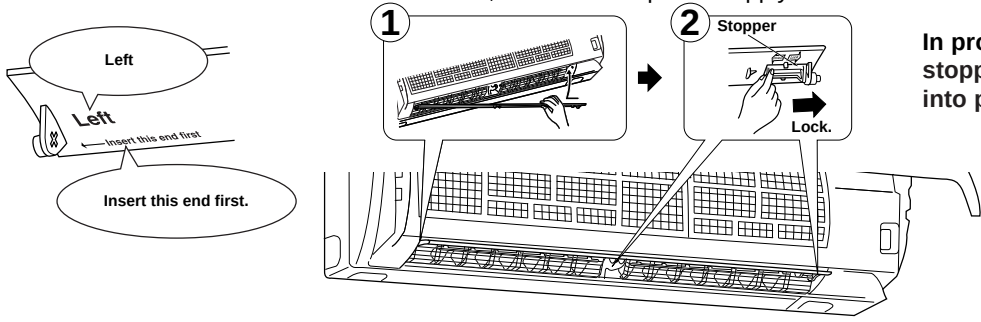
RESET button

NOTE : 1. If RESET button is not pressed, the remote controller may not operate correctly.
2. This remote controller has a circuit to automatically reset the microcomputer when batteries are replaced. This function is equipped to prevent the microcomputer from malfunctioning due to the voltage drop caused by the battery replacement.

5. How to install the horizontal vane

If horizontal vane is not installed correctly, all of the operation indicator lamps will blink.
In this case, install the horizontal vane correctly by following the procedures ① to ②.

NOTE: Before installation of the horizontal vane, turn OFF the power supply.

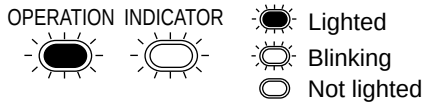


In procedure ② lock the stoppers until they click into place.

INFORMATION FOR MULTI SYSTEM AIR CONDITIONER
OUTDOOR UNIT : MXZ series

Multi system air conditioner can connect two or more indoor units with one outdoor unit.

- Unit won't operate in case the total capacity of indoor units exceeds the capacity of outdoor units. Do not connect indoor units beyond the outdoor unit capacity.
  Operation indicator lamp flashes as shown in the figure below.
- When you try to operate two or more indoor units with one outdoor unit simultaneously, one for the cooling and the other for heating, the operation mode of the indoor unit that operates earlier is selected. The other indoor units will start the operation later cannot operate, indicating as shown in the figure below. In this case, please set all the indoor units to the same operation mode.



- When indoor units starts the operation while the defrosting of outdoor unit is being done, it takes a few minutes (max. 10 minutes) to blow out the warm air.
- In the heating operation, though indoor unit that does not operate may get warm or the sound of refrigerant flowing may be heard, they are not malfunction. The reason is that the refrigerant continuously flows into it.

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9-2. Failure mode recall function

Outline of the function

This air conditioner can memorize the abnormal condition which has occurred once.

Even though LED indication listed on the troubleshooting check table disappears, the memorized failure details can be recalled.

This mode is very useful when the unit needs to be repaired for the abnormality which doesn't recur.

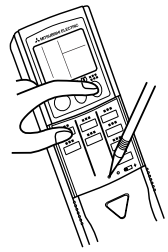
1. Flow chart of the indoor/outdoor unit failure mode recall function

Operational procedure

The cause of abnormality cannot be found because the abnormality doesn't recur.

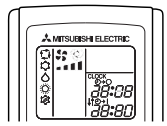
Setting up the failure mode recall function

Turn ON the power supply.
① While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
② First, release RESET button.
And release the other two buttons since all LCD in operation display section of the remote controller is displayed after 3 seconds.



① While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
② First, release RESET button.
And release the other two buttons since all LCD in operation display section of the remote controller is displayed after 3 seconds.

※1
Press OPERATE/STOP(ON/OFF) button of the remote controller (the set temperature is displayed).
With the remote controller headed towards the indoor unit, press TOO COOL or TOO WARM button to adjust the set temperature to 24℃.



※1. Regardless of normal or abnormal, a short beep is emitted once as the signal is received.

Does the left lamp of OPERATION INDICATOR lamp on the indoor unit blink at the interval of 0.5 seconds?
Blinks: Either indoor or outdoor unit is abnormal.
Beep sounds are emitted at the same timing of the blinking of the left lamp of OPERATION INDICATOR lamp. ※2

No (OFF) → Indoor unit is normal.
There is a possibility that the outdoor unit is abnormal.
Confirm the presence of abnormality according to the flow chart of the detailed outdoor unit failure mode recall function.

Yes (Blinks)

Judgment of indoor/outdoor abnormality

Before blinking, does the left lamp of OPERATION INDICATOR lamp stay ON for 3 seconds?
Stays ON for 3 seconds (without beep):
The outdoor unit is abnormal.

Yes → The outdoor unit is abnormal.
Check the blinking pattern, and refer to confirm the abnormal point.
Make sure to check at least two consecutive blinking cycles. ※3

No → The indoor unit is abnormal.
Check the blinking pattern, and refer to confirm the abnormal point(9-2. 2.).
Make sure to check at least two consecutive blinking cycles. ※2

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures.
①With the remote controller headed towards the indoor unit, press any button that is not used in this failure mode recall function (e.g. TIMER button) .
OR
①Turn OFF the power supply and turn ON it again.
②Press RESET button of the remote controller.

As for outdoor unit MUZ type, refer to service manual OB379.
As for outdoor unit MXZ type, refer to service manual OB377.

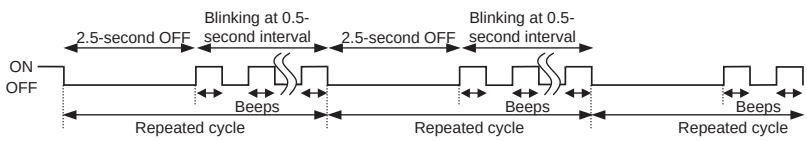
Repair the defective parts.

Deleting the abnormal condition

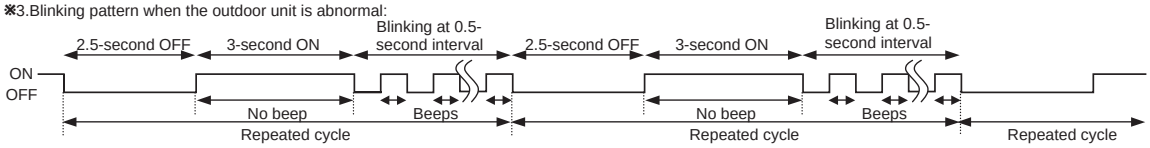
①After repairing the unit, recall the failure mode again according to "Setting up the failure mode recall function" mentioned above.
②Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
③Release the failure mode recall function according to "Releasing the failure mode recall function" mentioned above.

Note1.Make sure to release the failure mode recall function once it's set up, otherwise the unit cannot operate properly.
2.If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2. Blinking pattern when the indoor unit is abnormal:



※3.Blinking pattern when the outdoor unit is abnormal:



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2. Indoor unit failure mode table

NOTE: Blinking patterns of this mode differs from the ones of Troubleshooting check table(9-4.).

Left lamp of OPERATION INDICATOR lamp	Abnormal point (Failure mode)	Detection method	Check point
Not lighted	Normal	–	–
1-time flash every 0.5-second	Room temperature thermistor	When the room temperature thermistor short or open circuit is detected every 8 seconds during operation.	Refer to the characteristics of the room temperature thermistor (9-7.).
2-time flash 2.5-second OFF	Indoor coil thermistor	When the indoor coil thermistor short or open circuit is detected every 8 seconds during operation.	Refer to the characteristic of the main indoor coil thermistor, the sub indoor coil thermistor (9-7.).
3-time flash 2.5-second OFF	Serial signal error	When the serial signal from the outdoor unit is not received for a maximum of 6 minutes.	Refer to 9-6.Ⓓ "How to check miswiring and serial signal error".
11-time flash 2.5-second OFF	Indoor fan motor	When the rotational frequency feedback signal is not emitted during 12-second the indoor fan operation.	Refer to 9-6.Ⓐ "Check of indoor fan motor".
12-time flash 2.5-second OFF	Indoor control system	When it cannot properly read data in the nonvolatile memory of the indoor electronic control P.C. board.	Replace the indoor electronic control P.C. board.

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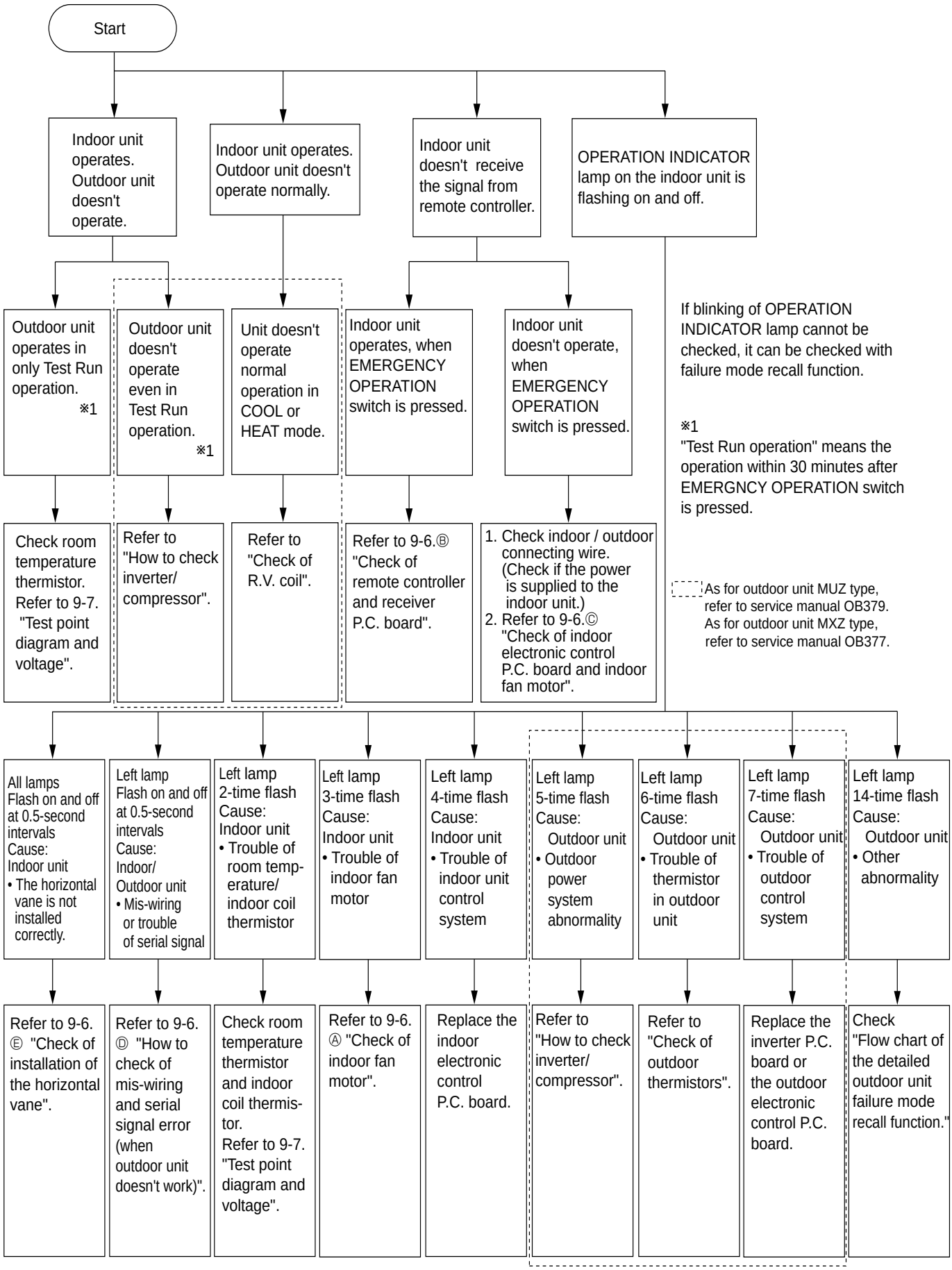
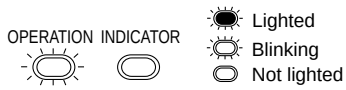
9-3. Instruction of troubleshooting


Start
Indoor unit operates. Outdoor unit doesn't operate.
Indoor unit operates. Outdoor unit doesn't operate normally.
Indoor unit doesn't receive the signal from remote controller.
OPERATION INDICATOR lamp on the indoor unit is flashing on and off.
Outdoor unit operates in only Test Run operation. ※1
Outdoor unit doesn't operate even in Test Run operation. ※1
Unit doesn't operate normal operation in COOL or HEAT mode.
Indoor unit operates, when EMERGENCY OPERATION switch is pressed.
Indoor unit doesn't operate, when EMERGENCY OPERATION switch is pressed.
If blinking of OPERATION INDICATOR lamp cannot be checked, it can be checked with failure mode recall function.
※1
"Test Run operation" means the operation within 30 minutes after EMERGNCY OPERATION switch is pressed.
Check room temperature thermistor. Refer to 9-7. "Test point diagram and voltage".
Refer to "How to check inverter/ compressor".
Refer to "Check of R.V. coil".
Refer to 9-6.Ⓑ "Check of remote controller and receiver P.C. board".
1. Check indoor / outdoor connecting wire. (Check if the power is supplied to the indoor unit.)
2. Refer to 9-6.Ⓒ "Check of indoor electronic control P.C. board and indoor fan motor".
As for outdoor unit MUZ type, refer to service manual OB379.
As for outdoor unit MXZ type, refer to service manual OB377.
All lamps Flash on and off at 0.5-second intervals Cause: Indoor unit • The horizontal vane is not installed correctly.
Left lamp Flash on and off at 0.5-second intervals Cause: Indoor/ Outdoor unit • Mis-wiring or trouble of serial signal
Left lamp 2-time flash Cause: Indoor unit • Trouble of room temperature/ indoor coil thermistor
Left lamp 3-time flash Cause: Indoor unit • Trouble of indoor fan motor
Left lamp 4-time flash Cause: Indoor unit • Trouble of indoor unit control system
Left lamp 5-time flash Cause: Outdoor unit • Outdoor power system abnormality
Left lamp 6-time flash Cause: Outdoor unit • Trouble of thermistor in outdoor unit
Left lamp 7-time flash Cause: Outdoor unit • Trouble of outdoor control system
Left lamp 14-time flash Cause: Outdoor unit • Other abnormality
Refer to 9-6. Ⓔ "Check of installation of the horizontal vane".
Refer to 9-6. Ⓓ "How to check of mis-wiring and serial signal error (when outdoor unit doesn't work)".
Check room temperature thermistor and indoor coil thermistor. Refer to 9-7. "Test point diagram and voltage".
Refer to 9-6. Ⓐ "Check of indoor fan motor".
Replace the indoor electronic control P.C. board.
Refer to "How to check inverter/ compressor".
Refer to "Check of outdoor thermistors".
Replace the inverter P.C. board or the outdoor electronic control P.C. board.
Check "Flow chart of the detailed outdoor unit failure mode recall function."

9-4. Troubleshooting check table



· Flashing of OPERATION INDICATOR lamp (left-hand side lamp) indicates abnormalities.

NOTE : Before taking measures, make sure that the symptom reappears for accurate troubleshooting.
Self check table

No.	Abnormal point	Operation indicator lamp	Symptom	Detection method	Check point
1	Mis-Wiring or serial signal	Left lamp flashes. 0.5-second ON 0.5-second OFF	Indoor unit and outdoor unit do not operate.	When the serial signal from the outdoor unit is not received for a maximum of 6 minutes.	• Refer to 9-6.Ⓓ "How to check mis-wiring and serial signal error".
2	Outdoor control system	Left lamp lights up	Outdoor unit does not operate.	When it cannot properly read data in the nonvolatile memory of the inverter P.C. board or the outdoor electronic control P.C. board.	• Check the blinking pattern of the LED on the inverter P.C. board or the outdoor electronic control P.C. board.
3	Indoor coil thermistor Room tempera-ture thermistor	Left lamp flashes. 2-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When the indoor coil or the room temperature thermistor is shorts or opens circuit.	• Refer to 9-7.the characteristics of indoor coil thermistor, and the room temperature thermistor.
4	Indoor fan motor	Left lamp flashes. 3-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When the rotational frequency feedback signal is not emitted during the indoor fan operation.	• Refer to 9-6.Ⓐ "Check of indoor fan motor".
5	Indoor control system	Left lamp flashes. 4-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When it cannot properly read data in the nonvolatile memory of the indoor electronic control P.C. board.	• Replace the indoor electronic control P.C. board.
6	Outdoor power system	Left lamp flashes. 5-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When it consecutively occurs 3 times that the compressor stops for overcurrent protection or start-up failure protection within 1 minute after start-up.	• Refer to "Check of inverter/ compressor". Refer to service manual OB379 or OB377. Check the stop valve.
7	Outdoor thermistors	Left lamp flashes. 6-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When the outdoor thermistors short or open circuit during the compressor operation.	• Refer to "Check of outdoor thermistor". Refer to service manual OB379 or OB377.
8	Outdoor control system	Left lamp flashes. 7-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When it cannot properly read data in the nonvolatile memory of the inverter P.C. board or the outdoor electronic control P.C. board.	• Replace the inverter P.C. board or the outdoor electronic control P.C. board. Refer to service manual OB379 or OB377.
9	Other abnormality	Left lamp flashes. 14-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	An abnormality other than above mentioned is detected.	• Confirm the abnormality in detail using the failure mode recall function.

NOTE : When the indoor unit has started operation and the above detection method has detected an abnormality (the first detection after the power ON), the indoor electronic control P.C. board turns OFF the indoor fan motor with OPERATION INDICATOR lamp flashing.

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OPERATION INDICATOR

Lighted
Blinking
Not lighted

· Flashing of OPERATION INDICATOR lamp (all lamps) indicates abnormality.

NOTE : Before taking measures, make sure that the symptom reappears for accurate troubleshooting.
Self check table

No.	Abnormal point	Operation indicator lamp	Symptom	Detection method	Check point
1	Attachment of the horizontal vane	All lamps flash at the same time. 0.5-second ON 0.5-second OFF	Indoor unit and outdoor unit do not operate.	When the electricity is not conducted to the interlock switch (Fan) of the horizontal vane.	• Refer to 9-6.Ⓔ "Check of installation of the horizontal vane".

OPERATION INDICATOR

Lighted
Blinking
Not lighted

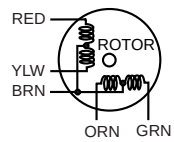
· Flashing of OPERATION INDICATOR lamp (right-hand side lamp) indicates abnormality.
· OPERATION INDICATOR lamp (left-hand side lamp) is lighted.

No.	Abnormal point	Operation indicator lamp	Symptom	Detection method	Check point
1	**MXZ type** Operation mode setting	**Right lamp flash** 2.5-second OFF	Outdoor unit operates but indoor unit does not operate.	When the operation mode of the each indoor unit is differently set to COOL(includes DRY) and HEAT at the same time, the operation mode of the indoor unit that has operated at first has the priority.	• Unify the operation mode. Refer to service manual OB377.

NOTE : When the indoor unit has started operation and the above detection method has detected an abnormality (the first detection after the power ON), the indoor electronic control P.C. board turns OFF the indoor fan motor with OPERATION INDICATOR lamp flashing.

9-5. Trouble criterion of main parts

MSZ-GA22VA -E1 MSZ-GA25VA -E1 MSZ-GA35VA -E1

Part name	Check method and criterion	Figure
Room temperature thermistor(RT11) Indoor coil thermistor (RT12(MAIN), RT13(SUB))	Measure the resistance with a tester. (Part temperature 10˚C ~ 30˚C) Normal: 8 kΩ ~ 20 kΩ Abnormal: Open or short-circuit	
Indoor fan motor(MF)	Check 9-6. Ⓐ.	
Horizontal vane motor(MV)	Measure the resistance between the terminals with a tester. (Part temperature 10°C ~ 30°C) Color of the lead wire: BRN-other one Normal: 235 Ω ~ 255 Ω Abnormal: Open or short-circuit	

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9-6. Troubleshooting flow

When OPERATION INDICATOR lamp flashes 3-time.
Indoor fan does not operate.

Ⓐ Check of indoor fan motor

The indoor fan motor error has occurred, and the indoor fan doesn't operate.

Turn OFF the power supply.
Insert a stick such as a screw driver into the air outlet, and check if there is any catch in the rotation of the line flow fan.

Is there any foreign matter that interferes the rotation of the line flow fan?

No

Yes

Adjust the line flow fan and remove the foreign matter.

Pay careful attention to the high voltage on the fan motor connector CN211.

※
Turn ON the power supply, wait 5 seconds or more, and then press EMERGENCY OPERATION switch.
Measure the supply voltage as follows within 12 seconds after EMERGENCY OPERATION switch is pressed.
If more than 12 seconds passes by, turn OFF the power supply and turn ON it again, then measure the voltage.
1.Measure the voltage between CN211 ①(+) and ③(-).
2.Measure the voltage between CN211 ⑤(+) and ③(-).

※If 12 seconds or more passes after EMERGENCY OPERATION switch is pressed, the voltage mentioned above 2 goes 0V DC although the indoor electric control P.C. board is normal.

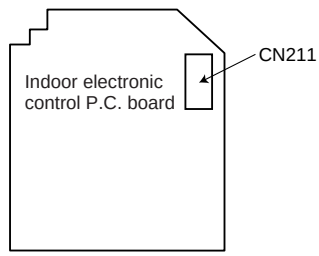
Is there 311V DC between CN211 ① (+) and ③ (-), and does the voltage between CN211 ⑤(+) and ③(-) rise to the range of 3 to 6V DC within 12 seconds after EMERGENCY OPERATION switch is pressed?

Yes

Replace the indoor fan motor.

No

Replace the indoor electronic control P.C. board.



The indoor fan motor error has occurred, and the indoor fan repeats "12-second ON and 30-second OFF" 3times, and then stops.

Measure the voltage between CN211 ⑥(+) and ③(-) while the fan motor is rotating.

Is it unchanged holding 0V DC or 15V DC?

Changed

Replace the indoor electronic control P.C. board.

Unchanged

Replace the indoor fan motor.

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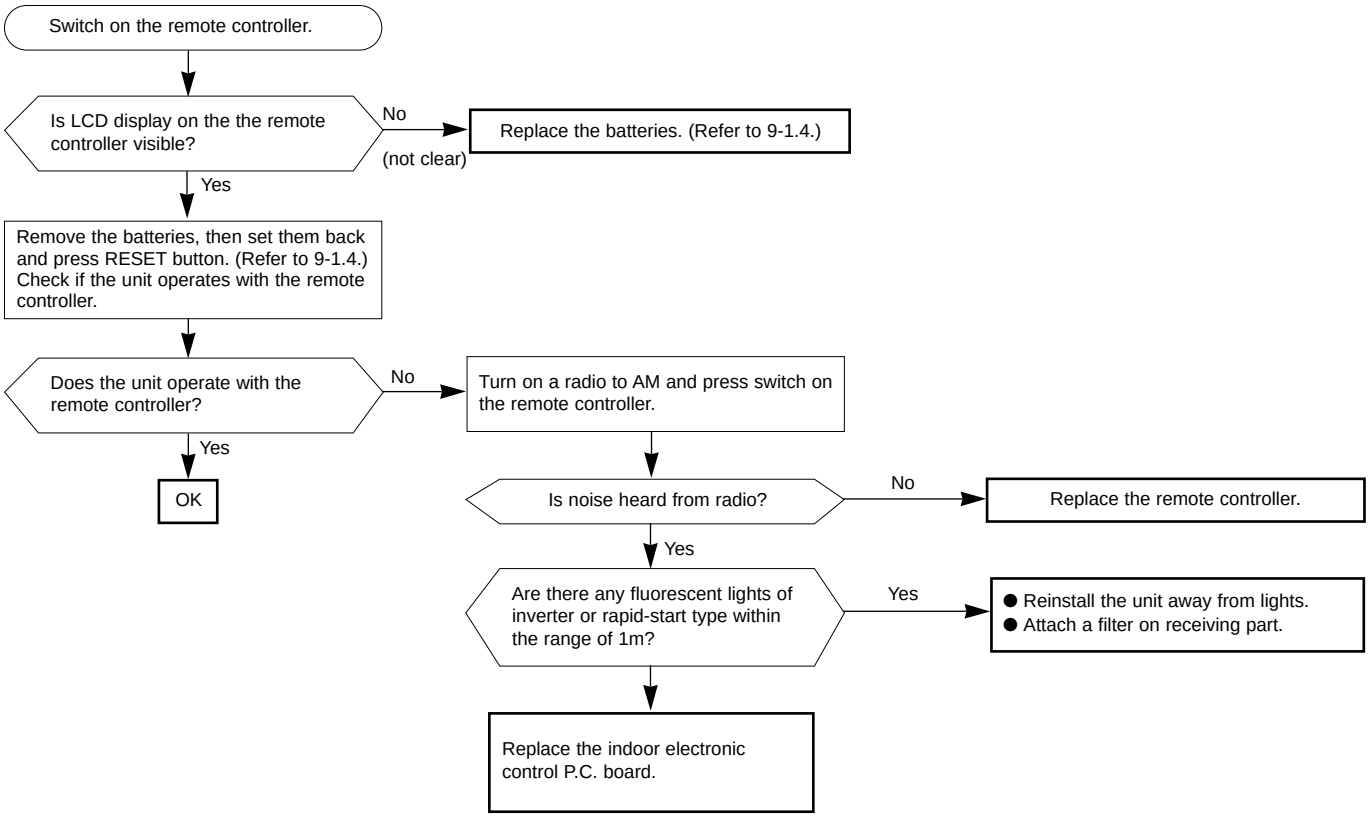
Indoor unit operates by pressing EMERGENCY OPERATION switch, but does not operate with the remote controller.

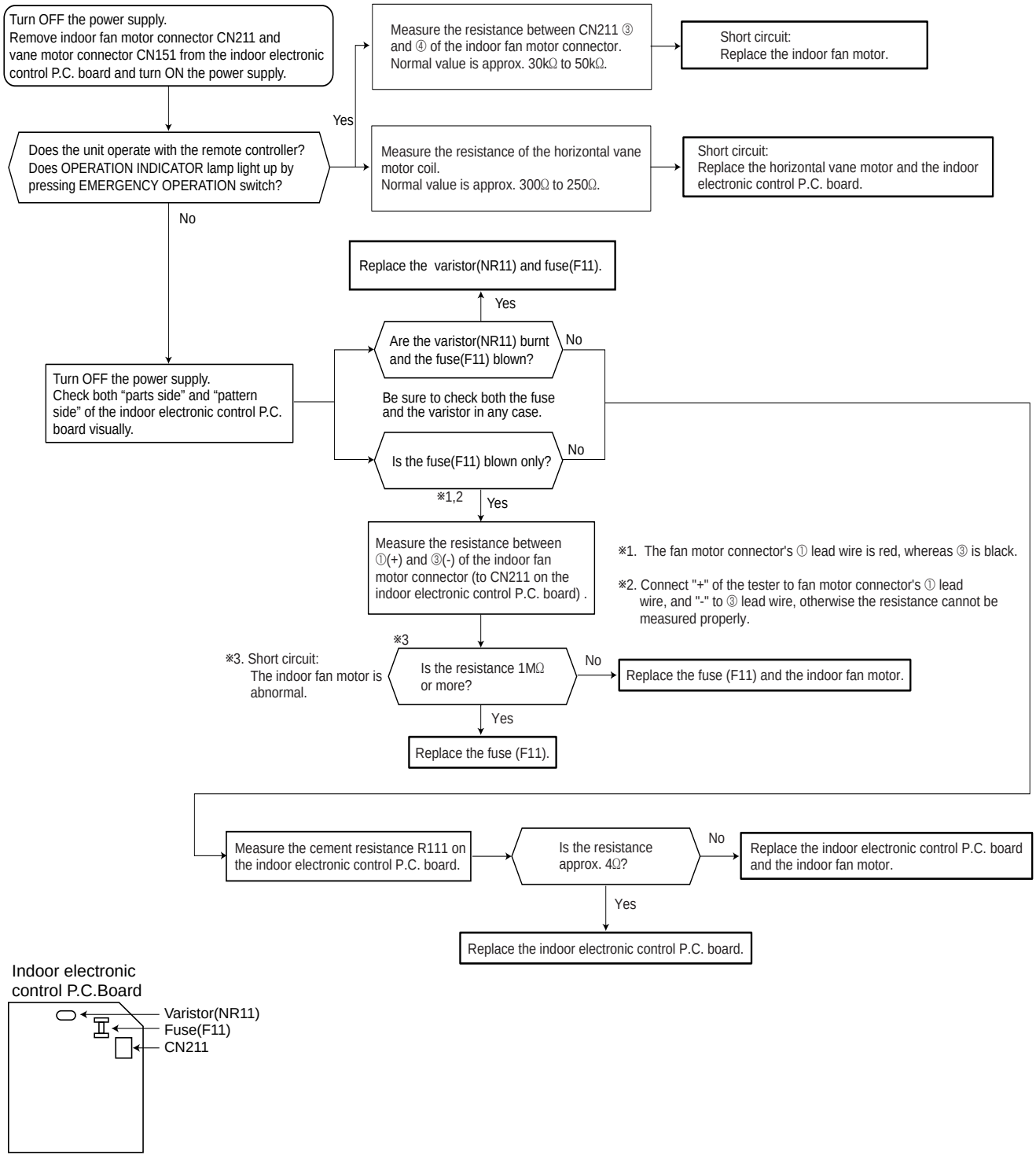
Ⓑ Check of remote controller and receiver P.C. board

※Check if the remote controller is exclusive for this air conditioner.


Switch on the remote controller.
Is LCD display on the the remote controller visible?
No
(not clear)
Replace the batteries. (Refer to 9-1.4.)
Yes
Remove the batteries, then set them back and press RESET button. (Refer to 9-1.4.) Check if the unit operates with the remote controller.
Does the unit operate with the remote controller?
No
Turn on a radio to AM and press switch on the remote controller.
Yes
OK
Is noise heard from radio?
No
Replace the remote controller.
Yes
Are there any fluorescent lights of inverter or rapid-start type within the range of 1m?
Yes
● Reinstall the unit away from lights.
● Attach a filter on receiving part.
Replace the indoor electronic control P.C. board.

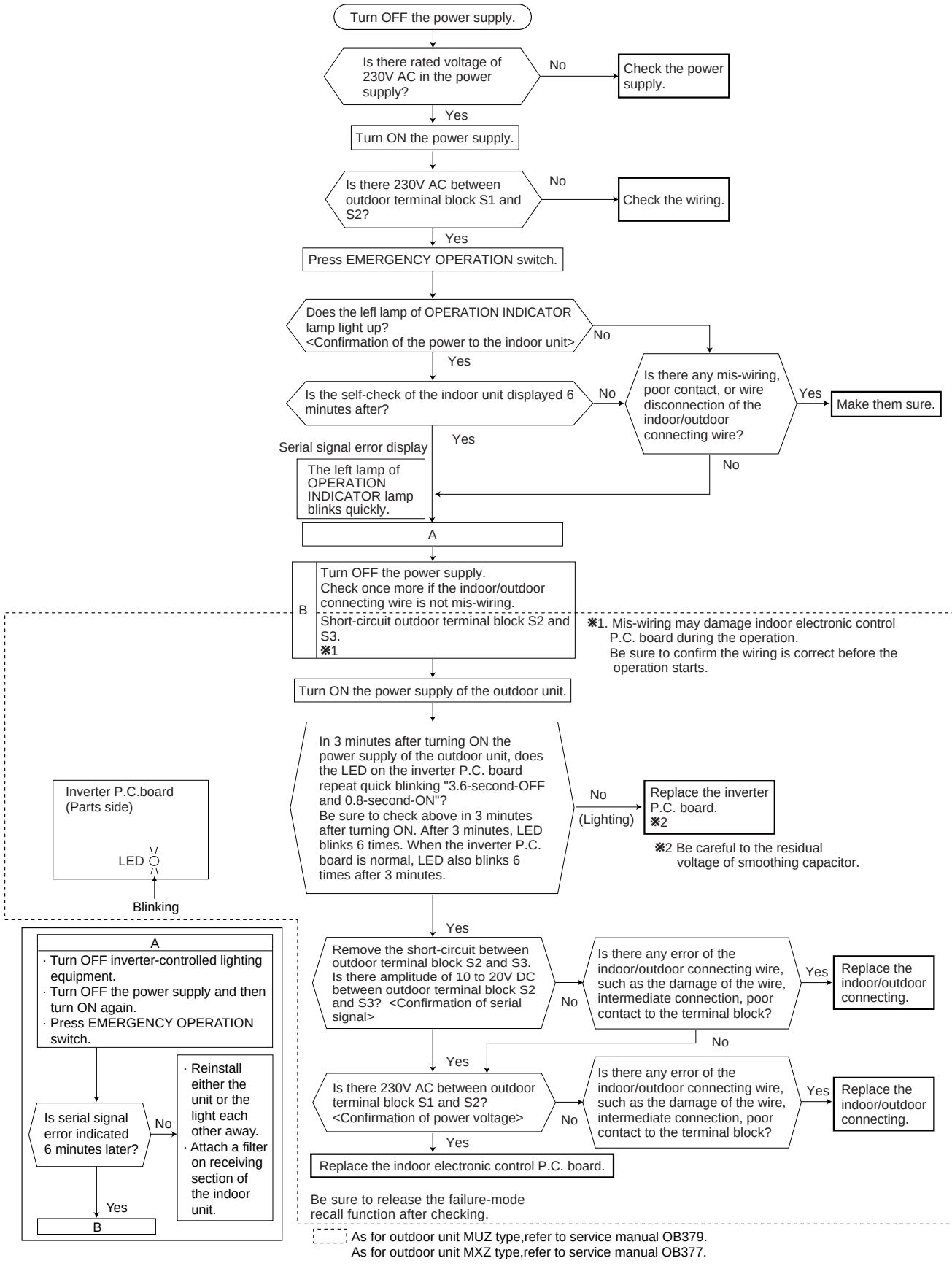
The unit does not operate with the remote controller.
Also, OPERATION INDICATOR lamp does not light up by pressing EMERGENCY OPERATION switch.

ⓒCheck of indoor electronic control P.C. board and indoor fan motor


Turn OFF the power supply.
Remove indoor fan motor connector CN211 and vane motor connector CN151 from the indoor electronic control P.C. board and turn ON the power supply.
Does the unit operate with the remote controller? Does OPERATION INDICATOR lamp light up by pressing EMERGENCY OPERATION switch?
Yes
Measure the resistance between CN211 ③ and ④ of the indoor fan motor connector. Normal value is approx. 30kΩ to 50kΩ.
Short circuit: Replace the indoor fan motor.
Measure the resistance of the horizontal vane motor coil. Normal value is approx. 300Ω to 250Ω.
Short circuit: Replace the horizontal vane motor and the indoor electronic control P.C. board.
No
Turn OFF the power supply.
Check both “parts side” and “pattern side” of the indoor electronic control P.C. board visually.
Are the varistor(NR11) burnt and the fuse(F11) blown?
No
Yes
Replace the varistor(NR11) and fuse(F11).
Be sure to check both the fuse and the varistor in any case.
Is the fuse(F11) blown only?
No
※1,2
Yes
Measure the resistance between ①(+) and ③(-) of the indoor fan motor connector (to CN211 on the indoor electronic control P.C. board) .
※1. The fan motor connector's ① lead wire is red, whereas ③ is black.
※2. Connect "+" of the tester to fan motor connector's ① lead wire, and "-" to ③ lead wire, otherwise the resistance cannot be measured properly.
※3
※3. Short circuit: The indoor fan motor is abnormal.
Is the resistance 1MΩ or more?
No
Replace the fuse (F11) and the indoor fan motor.
Yes
Replace the fuse (F11).
Measure the cement resistance R111 on the indoor electronic control P.C. board.
Is the resistance approx. 4Ω?
No
Replace the indoor electronic control P.C. board and the indoor fan motor.
Yes
Replace the indoor electronic control P.C. board.

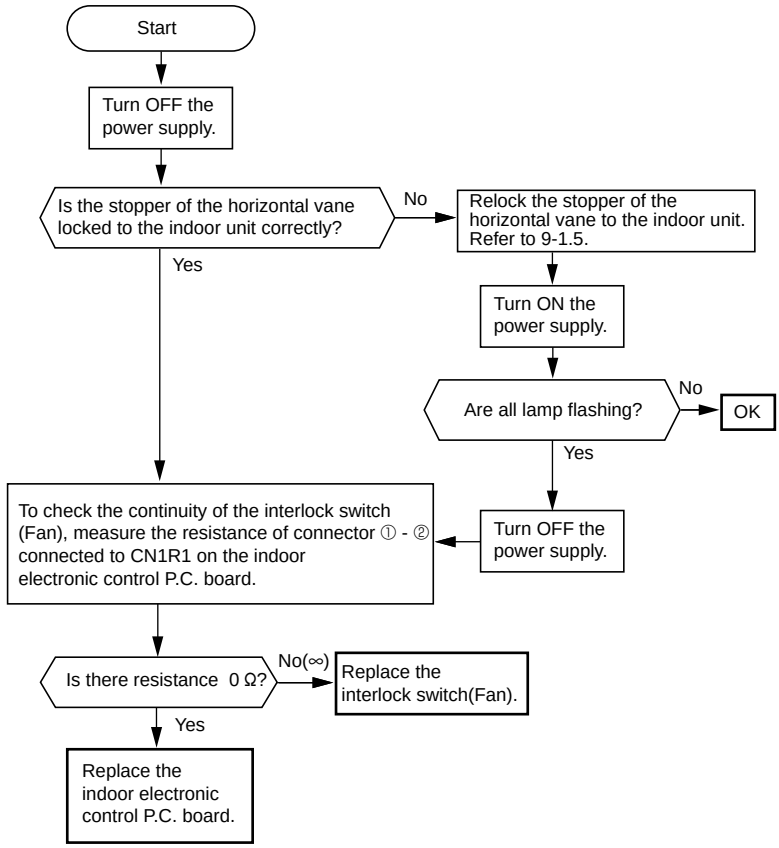
When POWER lamp flashes ON and OFF in every 0.5-second.
Outdoor unit does not operate.

Ⓓ How to check mis-wiring and serial signal error


Turn OFF the power supply.
Is there rated voltage of 230V AC in the power supply?
No
Check the power supply.
Yes
Turn ON the power supply.
Is there 230V AC between outdoor terminal block S1 and S2?
No
Check the wiring.
Yes
Press EMERGENCY OPERATION switch.
Does the lefl lamp of OPERATION INDICATOR lamp light up? <Confirmation of the power to the indoor unit>
No
Yes
Is the self-check of the indoor unit displayed 6 minutes after?
No
Is there any mis-wiring, poor contact, or wire disconnection of the indoor/outdoor connecting wire?
Yes
Make them sure.
Yes
No
Serial signal error display
The left lamp of OPERATION INDICATOR lamp blinks quickly.
A
B
Turn OFF the power supply.
Check once more if the indoor/outdoor connecting wire is not mis-wiring.
Short-circuit outdoor terminal block S2 and S3.
※1
※1. Mis-wiring may damage indoor electronic control P.C. board during the operation.
Be sure to confirm the wiring is correct before the operation starts.
Turn ON the power supply of the outdoor unit.
In 3 minutes after turning ON the power supply of the outdoor unit, does the LED on the inverter P.C. board repeat quick blinking "3.6-second-OFF and 0.8-second-ON"?
Be sure to check above in 3 minutes after turning ON. After 3 minutes, LED blinks 6 times. When the inverter P.C. board is normal, LED also blinks 6 times after 3 minutes.
No
(Lighting)
Replace the inverter P.C. board.
※2
※2 Be careful to the residual voltage of smoothing capacitor.
Inverter P.C.board
(Parts side)
LED
Blinking
Yes
Remove the short-circuit between outdoor terminal block S2 and S3. Is there amplitude of 10 to 20V DC between outdoor terminal block S2 and S3? <Confirmation of serial signal>
No
Is there any error of the indoor/outdoor connecting wire, such as the damage of the wire, intermediate connection, poor contact to the terminal block?
Yes
Replace the indoor/outdoor connecting.
No
Yes
Is there 230V AC between outdoor terminal block S1 and S2? <Confirmation of power voltage>
No
Is there any error of the indoor/outdoor connecting wire, such as the damage of the wire, intermediate connection, poor contact to the terminal block?
Yes
Replace the indoor/outdoor connecting.
Yes
Replace the indoor electronic control P.C. board.
Be sure to release the failure-mode recall function after checking.
A
· Turn OFF inverter-controlled lighting equipment.
· Turn OFF the power supply and then turn ON again.
· Press EMERGENCY OPERATION switch.
Is serial signal error indicated 6 minutes later?
No
· Reinstall either the unit or the light each other away.
· Attach a filter on receiving section of the indoor unit.
Yes
B
As for outdoor unit MUZ type,refer to service manual OB379.
As for outdoor unit MXZ type,refer to service manual OB377.

When All lamps flash ON and OFF every 0.5-second.
Indoor unit and outdoor unit do not operate.

Ⓔ Check of installation of the horizontal vane


Start
Turn OFF the power supply.
Is the stopper of the horizontal vane locked to the indoor unit correctly?
No
Relock the stopper of the horizontal vane to the indoor unit. Refer to 9-1.5.
Yes
Turn ON the power supply.
Are all lamp flashing?
No
OK
Yes
Turn OFF the power supply.
To check the continuity of the interlock switch (Fan), measure the resistance of connector ① - ② connected to CN1R1 on the indoor electronic control P.C. board.
Is there resistance 0 Ω?
No(∞)
Replace the interlock switch(Fan).
Yes
Replace the indoor electronic control P.C. board.

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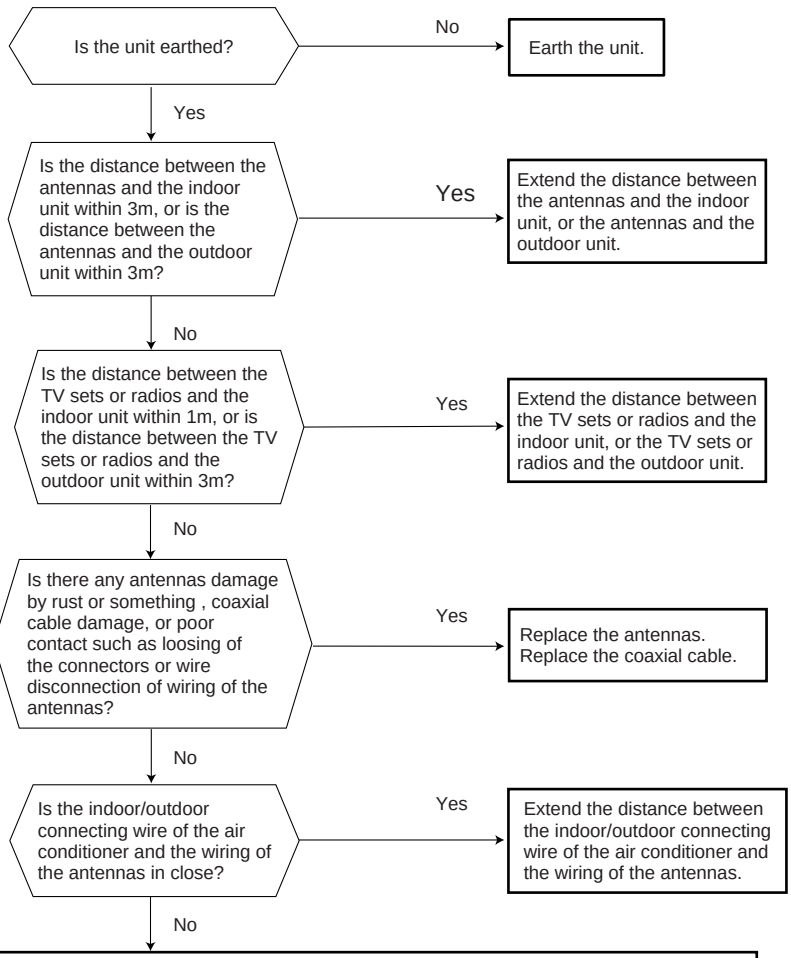
Ⓕ Electromagnetic noise enters into TV sets or radios


Is the unit earthed?
No
Earth the unit.
Yes
Is the distance between the antennas and the indoor unit within 3m, or is the distance between the antennas and the outdoor unit within 3m?
Yes
Extend the distance between the antennas and the indoor unit, or the antennas and the outdoor unit.
No
Is the distance between the TV sets or radios and the indoor unit within 1m, or is the distance between the TV sets or radios and the outdoor unit within 3m?
Yes
Extend the distance between the TV sets or radios and the indoor unit, or the TV sets or radios and the outdoor unit.
No
Is there any antennas damage by rust or something , coaxial cable damage, or poor contact such as loosing of the connectors or wire disconnection of wiring of the antennas?
Yes
Replace the antennas.
Replace the coaxial cable.
No
Is the indoor/outdoor connecting wire of the air conditioner and the wiring of the antennas in close?
Yes
Extend the distance between the indoor/outdoor connecting wire of the air conditioner and the wiring of the antennas.
No

Even if all of the above conditions is fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
Check the followings before asking for service.

1. Devices affected by the electromagnetic noise
   TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of ;
   indoor/outdoor unit of the air conditioner, indoor/outdoor wiring, grounding wire, antennas, wiring from antennas, receiver
5. Electric field intensity of the broadcast station affected by the electromagnetic noise
6. Presence or absence of amplifier such as booster
7. Operation condition of air conditioner when the electromagnetic noise enters in.
   1) Turn OFF the power supply once, and then turn ON the power supply. In this situation check for the electromagnetic noise.
   2) Within 3 minutes after turning ON the power supply, press OPERATE/STOP (ON/OFF) button on the remote controller for power-on, and check for the electromagnetic noise.
   3) After a short time (3 minutes later after turning ON), the outdoor unit starts running. During operation, check for the electromagnetic noise.
   4) Press OPERATE/STOP (ON/OFF) button on the remote controller for power off, when the outdoor unit stops but the indoor/outdoor communication still runs on. In this situation check for the electromagnetic noise.

After checking the above, consult the service representative.

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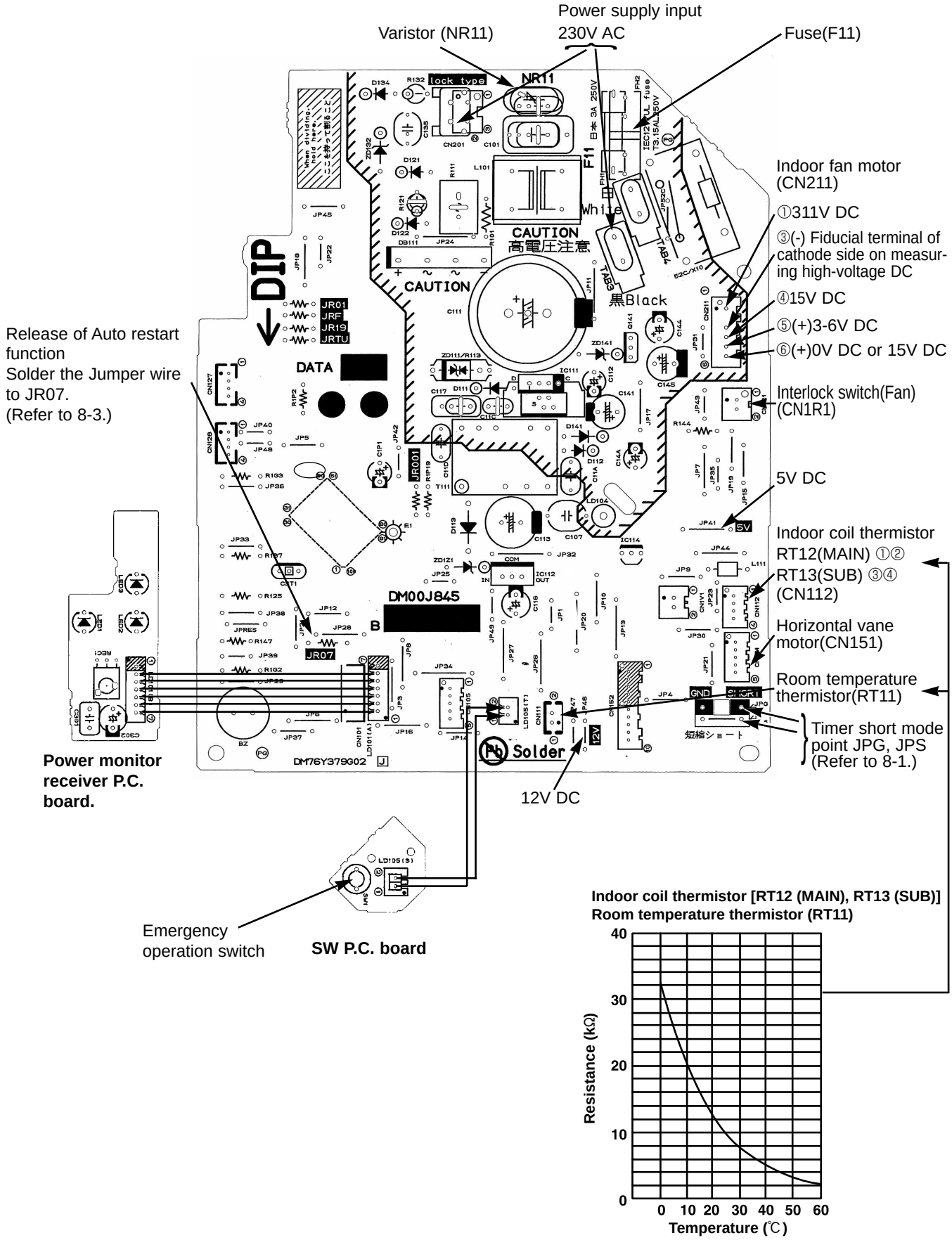
9-7. Test point diagram and voltage

MSZ-GA22VA -E1 MSZ-GA25VA -E1 MSZ-GA35VA -E1

Indoor electronic control P.C. board

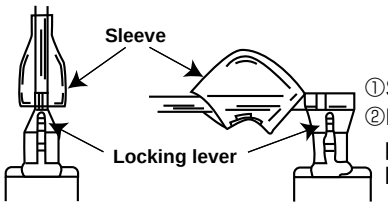


10 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>

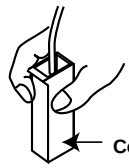
The terminal which has the locking mechanism can be detached as shown below.
There are two types (Refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



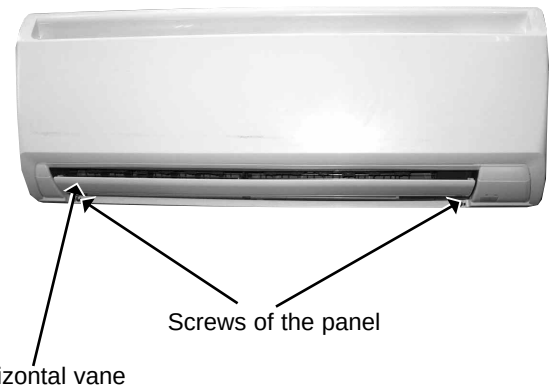
①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

(2) The terminal with this connector has the locking mechanism.



①Hold the sleeve, and pull out the terminal slowly.

MSZ-GA22VA - E1 MSZ-GA25VA - E1 MSZ-GA35VA - E1
INDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1. Removing the panel (1) Remove the horizontal vane. (2) Remove the screw caps of the panel. Remove the screws. (See Photo 1.) (3) Hold the lower part of both ends on the panel and pull it slightly toward you, and then remove the panel by pushing it upward.	**Photo 1** 

OPERATING PROCEDURE	PHOTOS

2. Removing the electronic control P.C. board, the power monitor receiver P.C. board, SW P.C. board and the terminal block

(1) Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
(2) Remove the screw of V.A. clamp, and then the indoor/outdoor connecting wire. (See Photo 2.)
(3) Remove the switch holder from the electrical cover. (See Photo 3.)
(4) Remove the screw of the electrical cover, and then the electrical cover. (See Photo 3.)
(5) Remove the ground wire connected to the indoor electronic control P.C. board from the electrical box. (See Photo 4.)
(6) Unhook the power monitor receiver P.C. board holder from the catch. (See Photo 4.)
(7) Open the rear cover of the power monitor receiver P.C. board holder and pull out the power monitor receiver P.C. board.
(8) Open the switch holder and pull out SW P.C. board.
(9) Pull the electronic control P.C. board slightly toward you from the electrical box, and disconnect TAB3 and all the connectors on the electronic control P.C. board. (LD101 and LD105 are direct-mounted to the electronic control P.C. board.)
(10) Pull out the electronic control P.C. board from the electrical box.
(11) Remove the ground wire connected to the heat exchanger from the electrical box. (See Photo 4.)
(12) Unhook the catches of the electrical box, and pull out the electrical box.
(13) Remove the screws of the terminal block cover, and then the terminal block cover and the terminal block holder. (See Photo 2.)
(14) Remove the terminal block by sliding it.

3. Removing the electrical box

(1) Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
(2) Remove the screw of V.A. clamp, and then the indoor/outdoor connecting wire. (See Photo 2.)
(3) Remove the switch holder and the electrical cover. (See Photo 3.)
(4) Remove the ground wire connected to the heat exchanger from the electrical box. (See Photo 4.)
(5) Disconnect the following connectors on the electronic control P.C. board; the fan motor connector <CN211>, the indoor coil thermistor connector <CN112>, the vane motor connector <CN151>, the connector of the interlock switch (Fan) of the horizontal vane <CN1R1>.
(6) Unhook the catches of the electrical box, and pull out the electrical box.

Photo 2

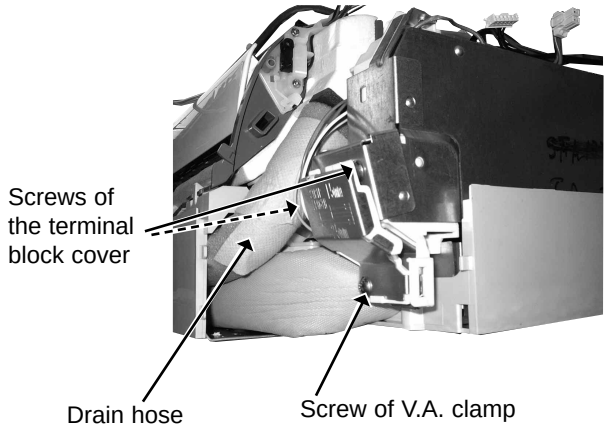


Photo 3

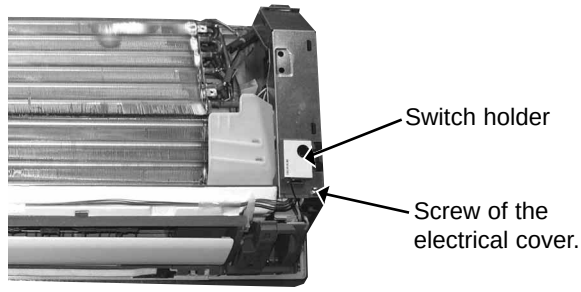
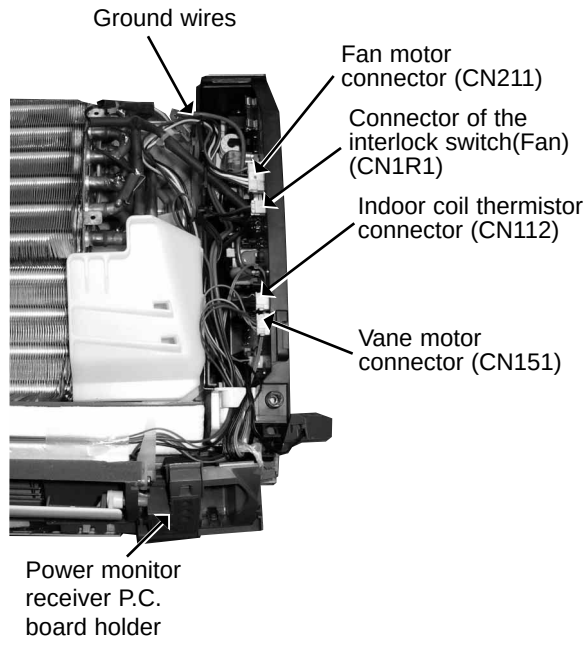
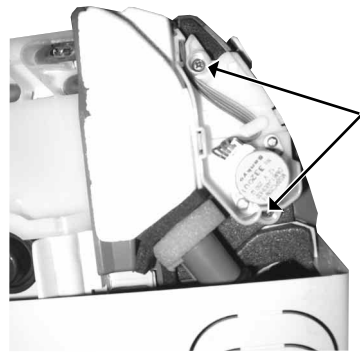
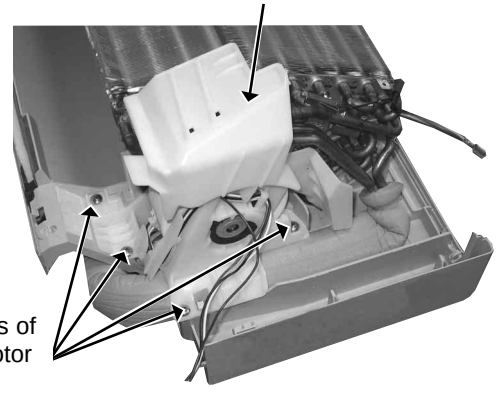
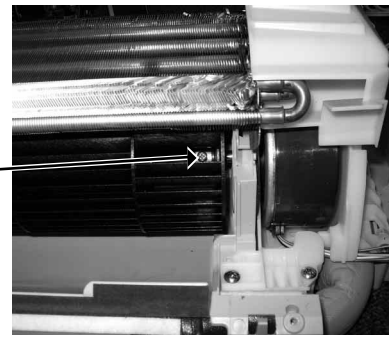
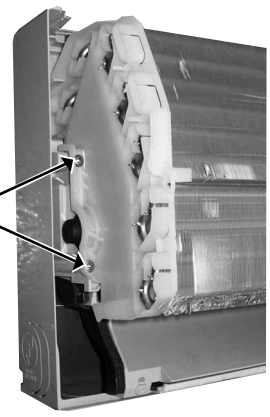


Photo 4

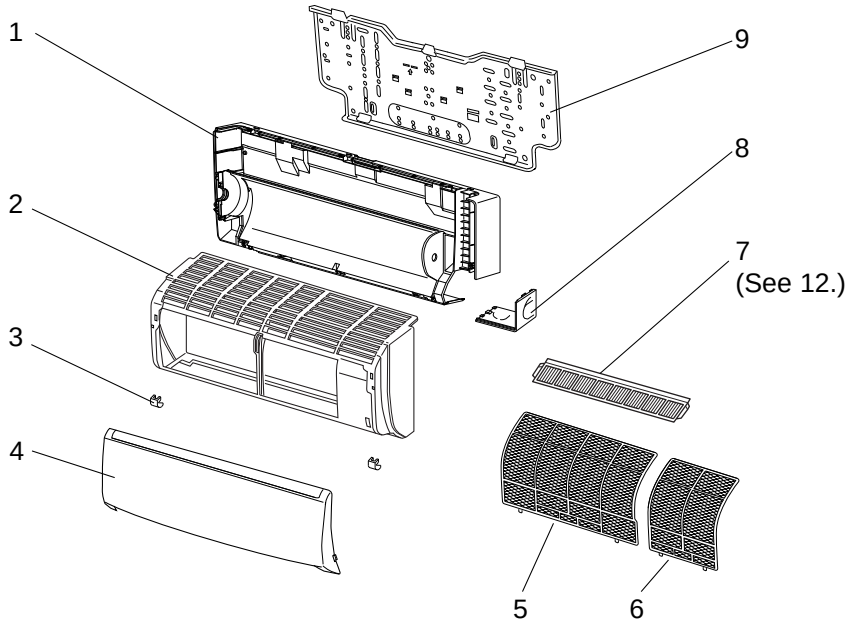

Ground wires
Fan motor connector (CN211)
Connector of the interlock switch(Fan) (CN1R1)
Indoor coil thermistor connector (CN112)
Vane motor connector (CN151)
Power monitor receiver P.C. board holder

OPERATING PROCEDURE	PHOTOS
4. Removing the horizontal vane motor unit (1) Remove the horizontal vane and the panel. (Refer to 1.) (2) Remove the screws of the horizontal vane motor unit, and pull out the horizontal vane motor unit. (See Photo 5.) (3) Disconnect the connector from the horizontal vane motor unit.	**Photo 5** 
5. Removing the indoor fan motor and the line flow fan (1) Remove the horizontal vane, the panel (Refer to 1.) and the corner box. (2) Remove the switch holder and the electrical box. (Refer to 3.) (3) Pull out the drain hose from the nozzle assembly, and remove the nozzle assembly. (4) Remove the screws fixing the motor bed. (See Photo 6.) (5) Loosen the screw fixing the line flow fan. (See Photo 7.) (6) Remove the motor bed together with fan motor and motor band. (7) Release the hooks of the motor band, and remove the motor band then pull out the indoor fan motor. (8) Remove the screws fixing the left side of the heat exchanger. (See Photo 8.) (9) Lift the heat exchanger, and pull out the line flow fan to the lower-left.	**Photo 6**  **Photo 7**  **Photo 8** 

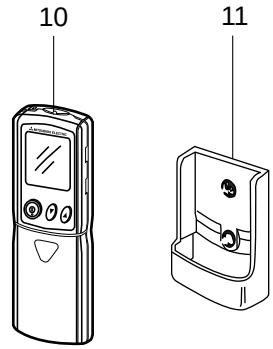
11 PARTS LIST

MSZ-GA22VA -E1 (WH)
MSZ-GA25VA -E1 (WH)
MSZ-GA35VA -E1 (WH)

11-1. INDOOR UNIT STRUCTURAL PARTS



11-2. ACCESSORY AND REMOTE CONTROLLER



11-1. INDOOR UNIT STRUCTURAL PARTS

No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MSZ-GA22VA -E1 (WH)	MSZ-GA25VA -E1 (WH)	MSZ-GA35VA -E1 (WH)	
1	E02 897 234	BOX		1	1	1	
2	E02 915 000	PANEL ASSEMBLY (WH)		1	1	1	Including No.3,4
3	E02 913 067	SCREW CAP		2	2	2	2PCS/SET
4	E02 915 010	FRONT PANEL (WH)		1	1	1	
5	E02 915 100	CATECHIN AIR FILTER (LEFT)		1	1	1	
6	E02 916 100	CATECHIN AIR FILTER (RIGHT)		1	1	1	
7	————	AIR CLEANING FILTER		1	1	1	MAC-415FT-E
8	E02 913 975	CORNER BOX (RIGHT)		1	1	1	
9	E02 913 970	INSTALLATION PLATE		1	1	1	

11-2. ACCESSORY AND REMOTE CONTROLLER

10	E02 915 426	REMOTE CONTROLLER		1	1	1	KM05B
11	E02 527 083	REMOTE CONTROLLER HOLDER		1	1	1	

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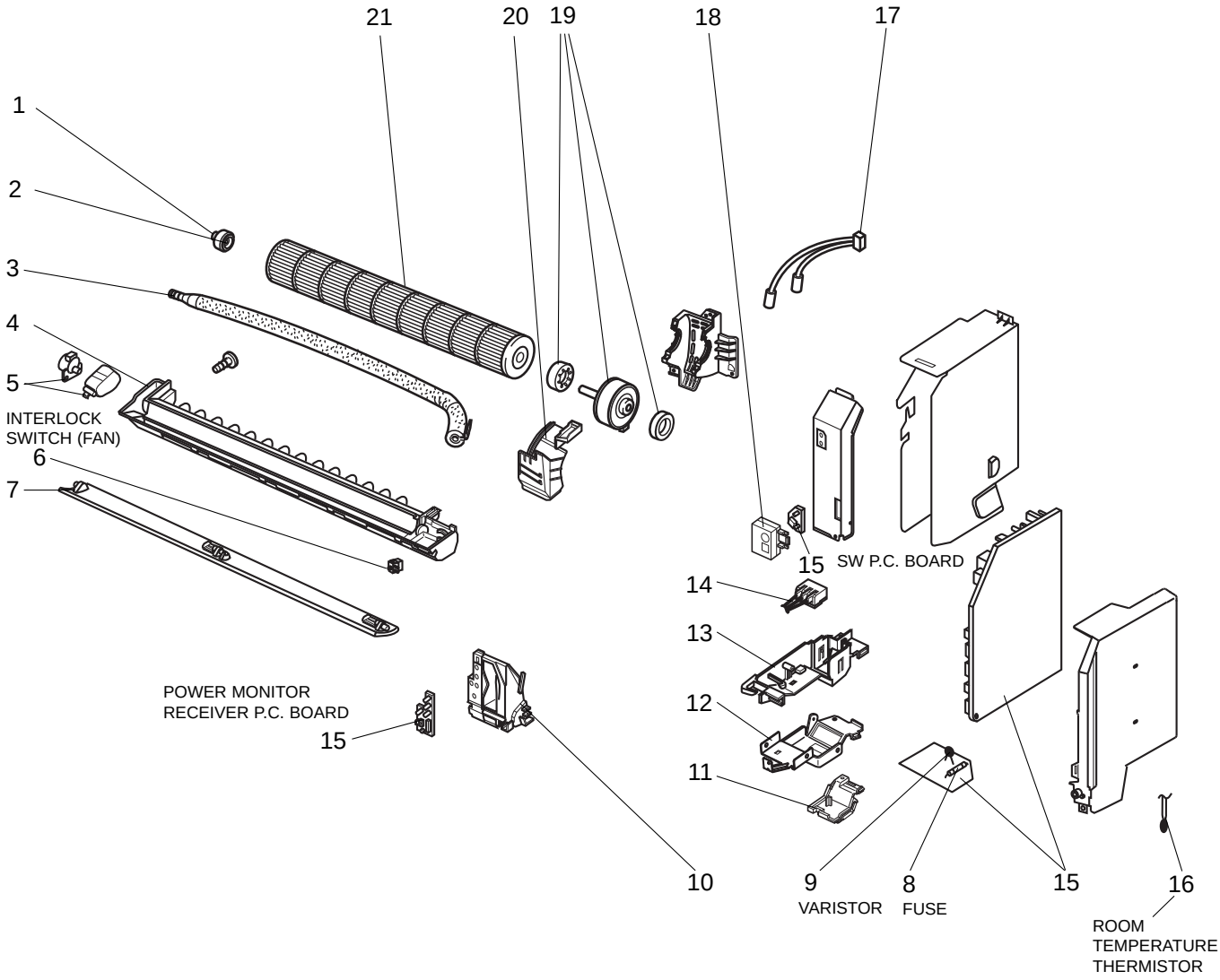
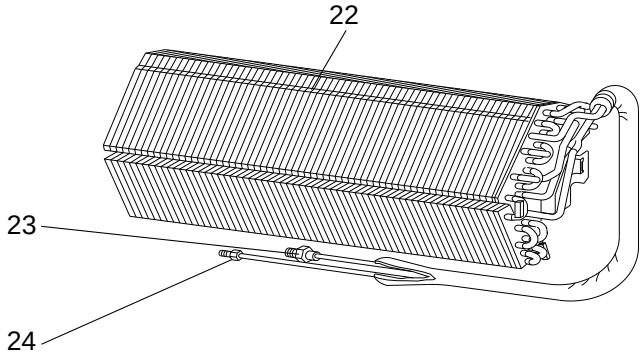
MSZ-GA22VA -E1 (WH)
MSZ-GA25VA -E1 (WH)
MSZ-GA35VA -E1 (WH)

11-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS



11-4. INDOOR UNIT HEAT EXCHANGER



11-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS

No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MSZ-GA22VA - E1 (WH)	MSZ-GA25VA - E1 (WH)	MSZ-GA35VA - E1 (WH)	
1	E02 751 509	BEARING MOUNT		1	1	1	
2	E02 001 504	SLEEVE BEARING		1	1	1	
3	E02 897 702	DRAIN HOSE		1	1	1	
4	E02 915 235	NOZZLE ASSEMBLY		1	1	1	
5	E02 897 303	VANE MOTOR UNIT (HORIZONTAL)	MV	1	1	1	UP & DOWN
6	E02 897 316	INTERLOCK SWITCH(FAN)		1	1	1	
7	E02 913 040	HORIZONTAL VANE		1	1	1	
8	E02 127 382	FUSE	F11	1	1	1	3.15A
9	E02 661 385	VARISTOR	NR11	1	1	1	
10	E02 915 095	POWER MONITOR RECEIVER P.C. BOARD HOLDER		1	1	1	
11	E02 897 784	V.A. CLAMP		1	1	1	
12	E02 897 780	TERMINAL BLOCK COVER		1	1	1	
13	E02 897 779	TERMINAL BLOCK HOLDER		1	1	1	
14	E02 913 375	TERMINAL BLOCK	TB	1	1	1	
15	E02 915 452	ELECTRONIC CONTROL P.C. BOARD ※1		1			AUTO RESTART
	E02 916 452	ELECTRONIC CONTROL P.C. BOARD ※1			1		AUTO RESTART
	E02 917 452	ELECTRONIC CONTROL P.C. BOARD ※1				1	AUTO RESTART
16	E02 897 308	ROOM TEMPERATURE THERMISTOR	RT11	1	1	1	
17	E02 913 307	INDOOR COIL THERMISTOR	RT12, RT13	1	1	1	
18	E02 915 782	SWITCH HOLDER		1	1	1	
19	E02 915 300	INDOOR FAN MOTOR ※2	MF	1	1	1	RC0J30- □□
20	E02 897 333	MOTOR BAND		1	1	1	
21	E02 897 302	LINE FLOW FAN		1	1	1	

※1 Including SW P.C. BOARD and POWER MONITOR RECEIVER P.C. BOARD
※2 Including FAN MOTOR RUBBER MOUNT (2 PCS/SET)

11-4. INDOOR UNIT HEAT EXCHANGER

22	E02 913 620	INDOOR HEAT EXCHANGER		1	1	1	
23	E02 815 666	UNION (GAS)		1	1	1	ϕ9.52
24	E02 151 667	UNION (LIQUID)		1	1	1	ϕ6.35

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12 OPTIONAL PARTS

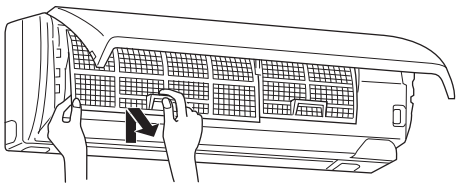
AIR CLEANING FILTER (ANTI-ALLERGY ENZYME FILTER)

- AIR CLEANING FILTER removes fine dust of 0.01 micron from air by means of static electricity.
- Normal life of AIR CLEANING FILTER is 1 year.
  If AIR CLEANING FILTER is to be washed, soak AIR CLEANING FILTER in water (when showing dirt, in lukewarm water) and rinse it delicately, without removing the filter from the frame about once every 3 months.
- Clogged AIR CLEANING FILTER may reduce the air conditioner capacity or cause frost on the air outlet.
- Do not remove or attach AIR CLEANING FILTER during unit operation.

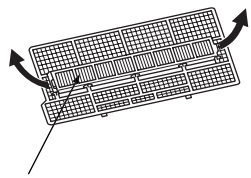
Model	Part No.
MSZ-GA22VA- E1 **MSZ-GA25VA-** E1 **MSZ-GA35VA-** E1	MAC-415FT-E

Replacement of the air cleaning filter

(1) Remove the catechin air filter(left one)
The air cleaning filter is not attached to the right side catechin air filter



(2) Remove the air cleaning filter(Blue bellows type) from the catechin air filter.



Air cleaning filter (Blue bellows type)

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